

REMARKS

In an Office Action dated November 24, 2010 (the “Office Action”), the Examiner objected to the drawings and the specification; rejected claims 74, 88 and 113-117 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement; rejected claims 103, 106, and 107 under 35 U.S.C. §103 as being unpatentable over U.S. Patent Publication Number US 2004/0052048 to Wu et al. (“Wu”) in view of U.S. Patent No. 6,725,682 to Scott (“Scott”) and U.S. Patent No. 6,945,315 to Getkin et al. (“Getkin”); rejected claim 104 under 35 U.S.C. § 103 as being unpatentable over Wu, Scott, Getkin and further in view of U.S. Patent Publication No. US 2005/0052847 to Hamman (“Hamman”); rejected claim 105 under 35 U.S.C. §103 as being unpatentable over Wu, Scott, Getkin, Hamman, and further in view of Alvaro; rejected claims 70, 72, 73, 74, 77, 78, 79, 80, 81, 82 and 108-112 under 35 U.S.C. §103 as being unpatentable over Wu, Scott, Getkin and Alvaro; rejected claims 85 and 88 under 35 U.S.C. §103 as being unpatentable over Wu, Scott, Getkin, Alvaro and U.S. Patent No. 6,668,911 to Bingler (“Bingler”) or U.S. Patent No. 5,001,548 to Iversen (“Iversen”). In the Office Action, the Examiner also acknowledges that the subject matter of claims 113-117 were not found in prior art. Applicant thanks the Examiner for acknowledging that claims 113-117 were not found in prior art.

Applicant does not necessarily agree with the rejections in the Office Action. However, to advance prosecution, Applicant amends claims 70, 72, 103, 108, 114, 115, and cancels claims 74, 85, 88, 113, and 117. The claims amendments find support in the originally filed specification and claims. For instance, support may be found in at least Figs. 15, 16, and their description in the originally filed specification. Therefore, no new matter is added. Claims 70, 72, 73, 77-82, 103-112, and 114-116 are pending.

Record of Personal Interview under 37 C.F.R. § 1.133(b).

A personal interview was conducted on Tuesday, March 29, 2011 between a representative of the Applicant, Biju Chandran, and Examiner Duong to discuss the Office Action. The Applicant and Applicant's representative thank Examiner Duong for taking the time to discuss this Office Action. During the interview, the Applicant's representative identified sections of the specification that provided support for recited features of the claims 74, 88, and 113-117. The Examiner agreed that claims 113-117 are supported by at least Fig. 15 and its related description in the originally filed specification. However, to eliminate confusion between the recited inlet passage and outlet passage and the lower chamber of the reservoir (identified using reference numbers 15 and 16 in FIG. 15) with the inlet and outlet of the reservoir (identified using reference numbers 15 and 16 in other figures, such as, for example, FIG. 6), the Examiner wanted Applicant to identify the inlet passage and the outlet passage of the lower chamber in FIG. 15 using a different reference number.

Applicant's representative also proposed amending all the independent claims to recite that the upper and the lower chambers of the reservoir were fluidly coupled, and explained that the Wu reference does not teach a reservoir with separate upper and a lower chambers, and therefore does not teach an upper chamber fluidly coupled to a lower chamber. The Examiner agreed that the Wu reference does not disclose a fluidly coupled upper and lower chamber.

To avoid the requirement of submitting new drawings and to ensure that the dependent claims are consistent with the proposed amendments, the Applicant's representative agreed to cancel claims 74, 85, 88 and part of claim 72.

The amendments (specification, drawing, claim amendments) and remarks in this response substantially conform to the discussions during the interview.

Objection to the Drawings

In the Office Action, the drawings were objected to for allegedly not showing every feature of the claimed invention. Office Action, pg. 2. The Examiner required that the upper chamber and the lower chamber of the reservoir, and the stator being positioned in the upper chamber be shown in the drawings or these features be cancelled. *Id.*

Applicant submits that the upper and the lower chamber of the reservoir are shown in the originally filed drawings. For instance, as explained during the interview and as agreed by the Examiner, at least originally filed FIG. 15 of the current application shows the upper and the lower chamber of the reservoir. Regarding the recitation of the stator being positioned in the upper chamber in claim 103, although Applicant believes that this feature is illustrated in the originally filed drawings (for example, in FIG. 7), by this response, Applicant cancels this limitation from claim 103. Therefore, Applicant respectfully requests that the objection to the drawings be withdrawn.

Objection to the Specification

In the Office Action, the specification was objected to for not providing proper antecedent basis for the claimed subject matter. To rectify this deficiency, the Examiner required the subject matter of the upper and the lower chamber be described in the specification. During the interview, the Examiner agreed with the Applicant that the recited upper and lower chambers of the reservoir are illustrated in originally filed FIG. 15. By this response, Applicant amends the specification to describe these illustrated upper and the lower chambers. Applicant submits that these amendments do not comprise new matter because these features were clearly

illustrated in at least the originally filed drawings. Applicant further submits that, by these amendments, the alleged deficiency of the specification is rectified. Therefore, Applicant respectfully requests that the objection to the specification be withdrawn.

35 U.S.C. § 112, First Paragraph, Rejection

In the Office Action, claims 74, 88, and 113-117 were rejected as failing to comply with written description requirement of § 112, because the limitations of these claims are not supported in the originally filed disclosure. Office Action, pg. 3-4.

Claims 74 and 88

Although Applicant believes that the limitations of these claims are supported in the originally filed specification (see, for instance, ¶¶ 14, 96, and 98 of the published application US 2007/0039719 provide support for claim 74; and FIG 9, ¶¶ 36, 88, 116, 119, and ¶ 132 provide support for claim 88), Applicant cancels claims 74 and 88 to hasten prosecution. However, Applicant reserves the right to pursue these claims in a continuing application.

Claims 113-117

Although claims 113 and 117 have been cancelled by this response, the limitations of claim 113 have been included in independent claim 70 and the limitations of claim 117 have been included in independent claim 103. Claims 114-116 depend from amended independent claim 70. As agreed by the Examiner during the interview, at least FIGS. 15 and 16 in the originally filed drawings illustrate the claimed features of these claims. Applicant submits that the written description in the specification (see, for instance, ¶¶ 127-129) would also clearly convey to one of ordinary skill in the art, that Applicant possessed a cooling system with the features recited in these claims. For instance, FIG. 15 of the originally filed application (annotated and reproduced below) identifies the relevant features of these claims.

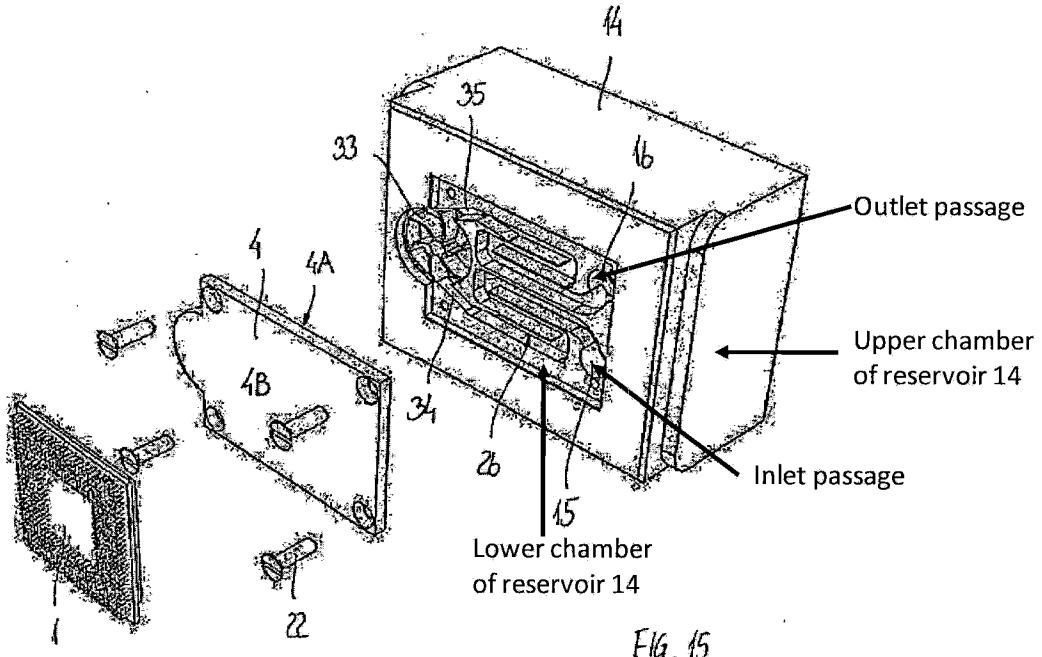


FIG. 15

“To satisfy the written description requirement, the disclosure of the specification must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, [the inventor] was in possession of the invention.” *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1366 (Fed. Cir. 2009). If a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed.Cir. 1991). Applicant submits that, based on the originally filed specification, a skilled artisan would have clearly understood the inventor to be in possession of a cooling system with the features claimed in claims 113-117.

Accordingly, Applicant respectfully requests that the § 112 rejection be withdrawn.

35 U.S.C. § 103 Rejections

Rejection of claims 103, 106, and 107 using Wu, Scott, and Getkin

In the Office Action, claims 103, 106, and 107 were rejected as being obvious over Wu, Scott, and Getkin. Office Action, pg. 4. Among these claims, claim 103 is independent.

Amended independent claim 103 includes the limitations of claim 113, the limitations of which were acknowledged to be not found in the prior art. Office Action, pg. 8.

For instance, amended independent claim 103 recites a cooling system for a computer processing unit including a reservoir, adapted to pass a cooling liquid therethrough, and configured to be coupled to the processing unit, “wherein the reservoir includes an upper chamber and a lower chamber, the upper chamber and the lower chamber being separate chambers that are fluidly coupled together by an inlet passage and an outlet passage, the inlet passage being a passage that directs the cooling liquid from the upper chamber to the lower chamber and the outlet passage being a passage that directs the cooling liquid from the lower chamber to the upper chamber, the lower chamber of the reservoir including a recessed cavity ...[with the] impeller being positioned in the recessed cavity.”

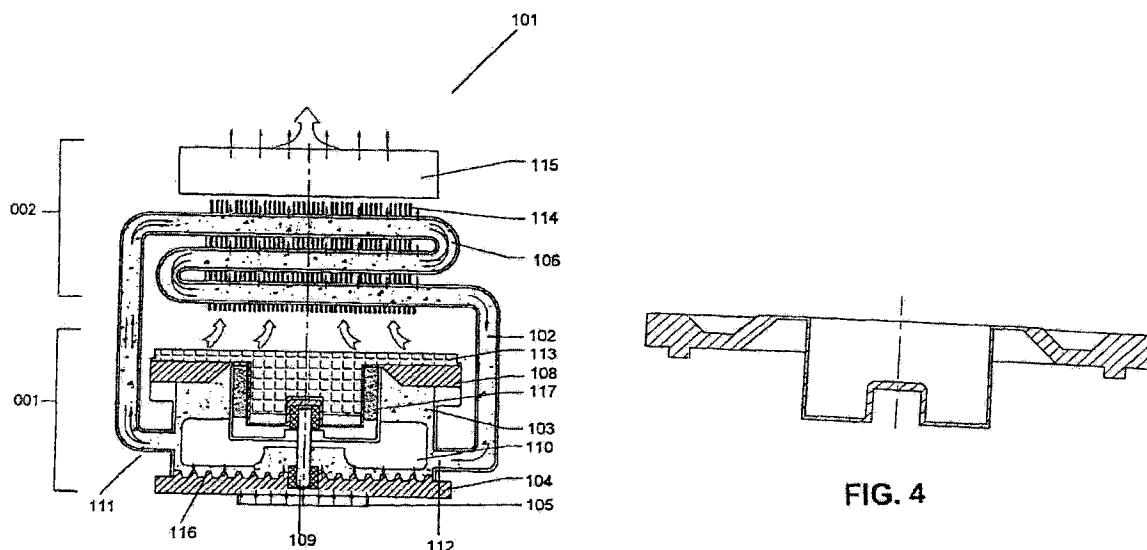


FIG. 1

FIG. 4

In the Office Action, Wu was relied upon for these teachings. Office Action, pgs. 4-5. With reference to FIGS. 1 and 5 of Wu reproduced above, Wu discloses a cooling system (101) in which an absorption section (001) is fluidly coupled to a radiation section (002) with conduits

(106) circulating a coolant (102) therebetween. ¶ 0016. The absorption section (001) of Wu includes a coolant storage unit (103) enclosed using an absorption layer 104 at the bottom and a top cover (108) (see FIG 4) at the top. *Id.* An impeller (110) is centrally positioned in the absorption layer. *Id.* The motor of Wu includes the impeller (110) and a rotor (117) placed inside the coolant storage unit (103), and a stator (113) positioned outside the coolant storage unit (103) and atop the top cover (108). See, end of ¶ [0020] on pg. 2.

In the Office Action, coolant storage unit (103) of Wu is interpreted as the recited reservoir with a region above the top cover (108) as the recited “upper chamber” and the region below the top cover (108) as the recited “lower chamber” having a “recessed cavity.” See Office Action, pgs. 4 and 5. Applicant submits that the region above the top cover (108) is outside the coolant storage unit (103) and is not a part of the coolant storage unit (103) as interpreted by the Examiner. Therefore, Wu’s coolant storage unit (103) includes only one chamber and does not include an upper chamber and a separate lower chamber as required by amended independent claim 103. Further, even if the region outside the coolant storage unit (103) were considered as the recited upper chamber, in Wu, the upper and the lower chambers are not “separate chambers that are fluidly coupled together by an inlet passage and an outlet passage, the inlet passage being a passage that directs the cooling liquid from the upper chamber to the lower chamber and the outlet passage being a passage that directs the cooling liquid from the lower chamber to the upper chamber,” as recited in amended independent claim 103. Further, Applicant submits that the coolant storage unit (103) of Wu does not include a “recessed cavity” with the “impeller [] positioned in the recessed cavity,” as also recited in independent claim 103. Wu also does not suggest these aspects of amended independent claim 103. Therefore, Wu does not disclose or suggest at least these aspects of amended independent claim 103. Scott and Getkin do not

remedy the deficiencies of Wu. Therefore, amended independent claim 103 is allowable over Wu, Scott, and Getkin. Claims 106 and 107 depend from amended independent claim 103 and include all of its limitations. Therefore, these dependent claims are allowable over the cited references at least for the same reason that amended independent claim 103 is allowable over these references.

Rejection of claims 104 using Wu, Scott, Getkin, and Hamman

Claim 104 was rejected as being obvious over Wu, Scott, Getkin, and Hamman. Office Action, pg. 6. Claim 104 depends from amended independent claim 103 and include all of its limitations. Hamman does not remedy the deficiencies of Wu, Scott, and Getkin. Therefore, claim 104 is allowable over the cited references at least for the same reason that amended independent claim 103 is allowable over Wu, Scott, and Getkin.

Rejection of claims 105 using Wu, Scott, Getkin, Hamman, and Alvaro

Claim 105 was rejected as being obvious over Wu, Scott, Getkin, Hamman, and Alvaro. Office Action, pg. 6. Claim 105 depends from claim 104 and includes all of its limitations. Alvaro does not remedy the deficiencies of Wu, Scott, Getkin, and Hamman with respect to claim 104. Therefore, claim 105 is allowable over the cited references at least for the same reason that claim 104 is allowable over Wu, Scott, Getkin, and Hamman.

Rejection of claims 70, 72-74, 77-82 and 108-112 using Wu, Scott, Getkin, and Alvaro

In the Office Action, claims 70, 72-74, 77-82 and 108-112 were rejected as being obvious over Wu, Scott, Getkin and Alvaro. Office Action, pg. 7. Among these claims, claims 70 and 108 are independent.

As discussed with reference to the rejection of amended independent claim 103 above, Wu, Scott, and Getkin, do not disclose or suggest all aspects of claim 103. Although different in

scope, amended independent claims 70 and 108 include similar features as recited in amended independent claim 103. Applicant notes that these features were acknowledged to be not found in prior art. Office Action, pg. 8.

For instance, amended independent claim 70 recites a cooling system for a computer system processing unit including a reservoir adapted to receive a cooling liquid from outside the reservoir through an inlet and pass the cooling liquid to outside the reservoir through an outlet, “the reservoir comprising an upper chamber and a lower chamber, the upper chamber and the lower chamber being separate chambers that are fluidly coupled together by an inlet passage and an outlet passage, the inlet passage being a passage that directs the cooling liquid from the upper chamber to the lower chamber and the outlet passage being a passage that directs the cooling liquid from the lower chamber to the upper chamber, the lower chamber having a recessed cavity ... [with the] impeller ... positioned within the recessed cavity.” And, amended independent claim 108 recites a method of operating a cooling system for an a computer system including circulating a cooling liquid between a reservoir coupled to the electronic component and a heat radiator using a pump, “wherein the reservoir includes an upper chamber and a lower chamber, the upper chamber and the lower chamber being separate chambers that are fluidly coupled together by an inlet passage and an outlet passage, the inlet passage being a passage that directs the cooling liquid from the upper chamber to the lower chamber and the outlet passage being a passage that directs the cooling liquid from the lower chamber to the upper chamber, the lower chamber of the reservoir including a recessed cavity ... [with] the impeller [] positioned within the recessed cavity.”

For similar reasons as discussed with reference to the rejection of amended independent claim 103 using Wu, Scott, and Getkin, these references do not disclose or suggest the above

recited aspects of amended independent claim 70 and 108. Alvaro does not remedy these deficiencies. Therefore, amended independent claims 70 and 108 are allowable over Wu, Scott, Getkin, and Alvaro.

Claims 74 has been cancelled by this response, thereby mooted its rejection. Among the remaining claims, claims 72, 73, and 77-82 depend from amended independent claim 70, and claims 108-112 depend from amended independent claim 108. These dependent claims include all the limitations of their respective independent claims. Therefore, these dependent claims are allowable over the cited references at least for the same reason that their respective independent claims are allowable over the cited references.

Rejection of claims 85 and 88 using Wu, Scott, Getkin, Alvaro, and Bingler or Iversen

In the Office Action, claims 85 and 88 were rejected as being obvious over Wu, Scott, Getkin, Alvaro and Bingler or Iversen. Office Action, pg. 7. Both claims 85 and 88 have been cancelled by this response. Therefore, these rejections are moot.

CONCLUSION

In view of the above remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and re-examination of this application and the timely allowance of the pending claims.

The Office Action contains characterizations of the claims and the related art, with which Applicant does not necessarily agree. Unless expressly noted otherwise, Applicant declines to subscribe to any statement or characterization in the Office Action.

Applicant respectfully requests that the Examiner contact the undersigned, if he considers that the present response does not overcome the prior art of record. The undersigned can be reached at (202) 408-4230.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.

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